UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,050	07/07/2003	Hiroyoshi Tagi	56937-081	4706

7590 06/21/2006

McDERMOTT, WILL & EMERY
600 13th Street, N.W.
Washington, DC 20005-3096

EXAMINER	
SEMENENKO, YURIY	

ART UNIT	PAPER NUMBER
2841	

DATE MAILED: 06/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/613,050	TAGI ET AL.	
	Examiner	Art Unit	
	Yuriy Semenenko	2841	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 May 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 4-24* is/are pending in the application.

4a) Of the above claim(s) *6-24* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4 and 5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 January 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Due to Interview summery filed 05/17/2006 the previous final Office Action is hereby vacated, and a new non-final Office Action have been issued in its place.

Response to Amendment

2. Amendment filed on 1/19/2006 has been entered.
In response to the Office Action dated 10/19/ 2005, Applicants has amended claims 1, 4 and 5.
Claims 2 and 3 has been cancelled. Claims 6-24 had been withdrawn from consideration.
Claims 1 and 4-24 are now pending in the application.

Drawings

3. The Drawings amendments, filed on 1/19/2006 are considered and is acknowledged. The Drawings amendments are approved. The objection to the Drawings have been withdrawn.

Claims

4. Claims 4 and 5 amendments, filed on 1/19/2006 are considered and is acknowledged. The claims amendments are approved. The objection to the claims have been withdrawn.

Response to Arguments

5. Applicant's arguments filed 1/19/2006 have been considered and acknowledged.

5.1. Applicant's arguments concern to electrical connection of the auxiliary lead are found persuasive .

5.2. Applicant's arguments concern to material for the electromagnetic shilding layer are not persuasive. Applicant asserts that Jones does not disclose "the electromagnetic shielding layer is made of a magnetic material having magnetic loss. Joens discloses shielding layer. But APA discloses this limitation "the electromagnetic shielding layer 806" on page 2, lines 24-27 of the Specification. And more, Joens discloses shielding metallic layer (component) 24, Fig.2, which implicitly can be the electromagnetic shielding layer.

In response to applicant's arguments against the references individually, applicant cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Specification and Drawings

6. The specification should be revised carefully in order to comply with 35 U.S.C. 112. Examples of some unclear, Applicant states that Prior art discloses that a signal transmitting lead 805 in electrical contact with a ground lead 804 (Specification, page 2, lines 13-21). But in Fig. 7 clearly shown that this two leads are not in contact with each other. If a signal transmitting lead 805 would be in electrical contact with a ground lead 804 it can not transmitting the signal at all, because of electrical short of the signal transmitting lead.

Appropriate specification drawings correction is required.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7.1. Claim 1 is rejected under 35U.S.C. 103(a) as being obvious over Admitted by Applicant (Prior Art, hereinafter "APA") in view of Hayashi (Patent # 6359235) hereinafter "Hayashi" and in view of Jones (Patent #5227583) hereinafter "Jones" and in view of Lamson et al. (Patent #6563208) hereinafter "Lamson".

As to claim 1: APA discloses in Fig. 7 a printed wiring board 801 comprising: an insulating board 803 which includes a plurality of electrically insulating layers which are laminated; a signal transmitting lead 805 which is provided at an interlayer between the electrically insulating layers, Fig. 7; an auxiliary lead 804 which is provided on the insulating board; and an electromagnetic shielding layer 806 made of a magnetic

material having magnetic loss (Specification, page 2, lines 24-27), wherein a signal is not carried to the auxiliary lead.

except, APA doesn't explicitly teach an electronic component which is built in the insulating board .

Hayashi teaches an electronic component which is built in the insulating board. Therefore, at time the invention was made, it was well know to use an electronic component which is built in the insulating board.

Therefore it would have been obvious to one of ordinary skill in the art, at time the invention was made for APA to include in his invention an electronic component which is built in the insulating board.

Benefit of doing so is to further miniaturization of the printed wiring board (PWB).

APA, also, fail to expressly disclose the shielding layer which covers at least a part of the auxiliary lead.

Jones teaches the shielding layer 28, Fig. 2, which covers at least a part of the auxiliary lead 26 (column 5, lines 54-57).

Therefore it would have been obvious to one of ordinary skill in the art, at time the invention was made for APA to include in his invention the electromagnetic shielding layer which covers at least a part of the auxiliary lead to reduce noise during transmitting high-frequency signal, which is common practice for HF technology.
The prior art itself and in combinations with each other define the structure (APA, as modified, discloses the printed wiring board) is capable of performing the intended use (transmitting a high-frequency signal, as claimed claim 1), then it meets the claim. See In re Casey, 152 USPQ 235 (CCPA 1967) AND In re Otto, 136 USPQ 458, 459 (CCPA 1963).

except, APA doesn't explicitly teach an auxiliary lead is not in electrical contact with the signal transmitting lead ;

Lamson teaches in Fig. 4, an auxiliary lead 402 is not in electrical contact with the signal transmitting lead 401 (column 3, lines 52-63);

Therefore it would have been obvious to one of ordinary skill in the art, at time the invention was made for APA to include in his invention an auxiliary lead is not in

electrical contact with the signal transmitting lead , as taught by Lamson, because Lamson teaches that such a configuration would result that impedance can be selected for individual leads (column 1, lines 57-59).

As to claim 4: Further, APA, as modified, discloses the printed wiring board having all of the claimed features as discussed above with respect claim 1, and an electromagnetic shielding layer 806, Fig. 7,

except, APA, does not teach an insulating film is provided between the auxiliary lead and the electromagnetic shielding layer.

Jones teaches an insulating film 30, Fig. 2 is provided between the auxiliary lead 26 and the shielding layer 28 (column 5, lines 57-59). Therefore, at time the invention was made, it was well know to use an insulating film is provided between the auxiliary lead and the electromagnetic shielding layer.

Therefore it would have been obvious to one of ordinary skill in the art, at time the invention was made for APA to include in his invention an insulating film is provided between the auxiliary lead and the electromagnetic shielding layer.

Benefit of doing so is to provide better electromagnetic shield by separation of the two circuits.

As to claim 5: Further, APA, as modified, discloses the printed wiring board having all of the claimed features as discussed above with respect claim 1,

except, APA, does not teach the signal transmitting lead has lead regions which are opposite to each other, and the auxiliary lead is provided between the opposite lead regions.

Jones teaches the signal transmitting lead 36, Fig. 1 has lead regions 38 which are opposite to each other, and the auxiliary lead 26 is provided between the opposite lead regions.

Therefore, at time the invention was made, it was well know to use the signal transmitting lead which has lead regions which are opposite to each other, and the auxiliary lead is provided between the opposite lead regions.

Therefore it would have been obvious to one of ordinary skill in the art, at time the invention was made for APA to include in his invention the signal transmitting lead has lead regions which are opposite to each other, and the auxiliary lead is provided between the opposite lead regions.

Benefit of doing so is to prevent a degradation of the transmitted signals.

8.1. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yuriy Semenenko whose telephone number is (571) 272-6106. The examiner can normally be reached on 8:30am - 5:00pm.

8.2. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamand Cuneo can be reached on (571)- 272-1957. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

8.3. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YS

K Cuneo
SPE 2841